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| viewpoints: is genetically modified food safe to eat? | |
| Scientists and government regulators maintain that GM food presents no food safety issues at the moment. Biotechnology critics and other scientists disagree, arguing that there's inadequate testing and regulation of GM food, and that we don't really know whether GM food is safe or not |  |

**Hugh Grant**

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These crops [and these] technologies have been more widely tested than any other food product that came before them in history. They are very widely tested, not just here in the U.S., but in Japan [and] in Europe. ... I think the debate is moving away from food safety [toward] environmental impact.

**From the food safety point of view, probably the biggest concern would be allergenicity?**

... Monsanto's first product, Roundup Ready Soybeans, has been extensively tested for allergens and food allergens, and has passed all the food allergen tests here in the U.S., in Japan, and in Europe four years ago. Despite a lot of the discussion at the moment, the soybean products have been in public commerce for almost five years.   
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**Jane Rissler, Ph.D.**

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... You've heard industry say, for example, that there is no evidence that these foods are harmful. After all, people in the United States have been eating them for several years now. Do you believe that statement? Isn't it a bit disingenuous? How would we know if someone had gotten ill from genetically engineered food if it's not labeled? How could there be evidence if they haven't allowed the food to be labeled? They're now saying, "Well, there's no evidence of harm." But thatÕs because they haven't allowed any way to track any harm.   
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**Norman Borlaug, Ph.D.**

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[Some critics] say, "If [BT corn, for example, is] toxic to that insect, it must be toxic to us." But that's an over-simplification. Dr. Bruce Ames at the University of California, for the last 20 years, has been analyzing all kinds of foods, thousands of different samples. He finds that in the foods that we've been eating from the beginning of agriculture, there are many toxic substances, but they're present in very small quantity.

A good example to illustrate is the case of the common mushroom that most of us like to have with our steak or gravy. There are two [toxins] present in minute quantity. But if you isolate those, like Dr. Ames has, increase the dosage and incorporate it in the feed of rats, it's a beautiful carcinogen. Why don't we get [cancer from eating these mushrooms]? Simple reason is that we don't eat kilos each day of mushrooms. So dosage really makes the toxin or carcinogen. There's no zero risk in the biological world. ...   
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**Jeremy Rifkin**

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**Is food safety an issue here, as you see it?**

[Yes], because what we're dealing with is the introduction of new genetic foods that have genes that code for proteins that we've never consumed. So when you place a Chinese hamster gene into your food crop and we consume it in raw or processed food, we just don't know what the reaction's likely to be. The fact is, we know that with traditional foods, 8 percent of children, 2 percent of adults have allergenic reaction to traditional foods. We spent a long part of our history testing various things we could eat, and a lot of people have died as part of this grand experiment to see what we could consume. ...

Many of [the genetically modified foods] will be safe, I'm sure. Will most of them be safe? Nobody knows. The fact is, even the Food and Drug Administration, in internal documents by their own scientists that were forced out in a lawsuit, suggested that these foods could pose some potentially serious allergenic and toxic reactions among consumers.

**But everyone's aware of allergenicity as an issue, aren't they? This is not a secret. ...**

The American public is not aware that there might be potential allergenic and toxic reactions. ... [With regular food], at least people know which foods they have an allergy to. People know if they have an allergenic reaction to peanuts, for example. Here, you don't know, because the foods aren't labeled. Because these genes that they're placing in the foods have never been tested in the human diet, it's one big health roulette gamble. ...   
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**Jim Maryanski, Ph.D.**

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**Would you say there's more risk of allergenicity with this technology?**

We actually think the risk is very low, based on our discussions with scientists who are expert in the field of food allergy. The reason is that there are ways to scientifically assess the possible allergenicity of a protein that's derived from a source, where we know that individuals are allergic to that food. We've actually had an example where a soybean was developed with a protein from a Brazil nut. There are individuals who are allergic to tree nuts, including Brazil nuts. The scientific procedures did demonstrate that that protein was an allergen, and that product was discontinued.

In terms of proteins that would come from sources that are not known to be allergens--bacteria, for example--the feeling from the scientists was that while there's always some chance that a protein could be an allergen, it wasn't very likely that most proteins would be allergens, particularly if they did not exhibit characteristics that are typical of food allergens. Food allergens, for example, tend to resist digestion. The proteins that have been introduced into foods, to this point in time, have all been shown to be readily digestible and not similar to any known toxins or allergens. ...

**[Talk about the taco shells that contained genetically modified corn that hadn't been approved for human consumption. They wound up at Taco Bell]. How could something like this happen, given our regulatory structure?**

This was a case of a product that was not approved for use in food. It was approved by EPA for use in animal feed. The company that developed this particular plant believed that they had a management program that would ensure that the growers of this corn would channel that product into feed use and keep it out of the food supply. In fact, the company did explain that plan to FDA. Obviously, it didn't work. We did begin to receive reports that there had been some methods of detecting the Cry9C, the name of this protein, in taco shells. We initiated a full investigation into the matter. ... As a result of that investigation, we did determine through analytical methodology that in fact the Cry9C protein was present in the taco shells that had been provided by the company Kraft.

**How widespread was this?**

I don't think we know that exactly. ... Nevertheless, Kraft recalled the products. ...

**[Was a] potential allergen released into the food supply?**

We have no information to suggest that there is a health problem with this product. At the same time, it had not completed the review process. There were questions about whether this particular protein might have some of the characteristics that are similar to food allergens.   
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**Larry Bohlen**

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I would say that the StarLink contamination incident is a serious setback for the biotech industry. ... Companies like Aventis and Monsanto have been aggresively and recklessly marketing their products, climbing over each other to get to the patent office so they can maximize their profits. That means they've ignored critical safety and environmental tests that should have been run. ...

One thing that nobody knows is whether people have been made sick by eating the StarLink corn. About 20 health reports came in to Friends of the Earth, and the FDA reports about 15 of people who are concerned that an illness they had immediately after consuming a corn product was related to eating StarLink corn. The illnesses range from swollen tongue, stomachache, nausea, to a couple of cases of anaphylactic shock. ... Until it is shown that those health incidents were not related to StarLink, it is just too risky to have genetically engineered products on the market